

ABSTRACT OF THE DISCLOSURE

For stepless capacity control of a reciprocating piston compressor, an unloader (2) arranged on a suction valve (1) keeps open said suction valve (1) over a thereby controllable portion of the working cycle of the compressor by means of an unloading piston (4) biased by gas pressure via a control valve (3). The gas pressure biasing the unloading piston (4) is always above the gas pressure required to overcome the maximum possible reverse flow force, whereby a controllable partial discharge of the unloading cylinder (6) is performed in each phase of the working cycle up to the closing of the suction valve (1) by means of the control valve (3), which is designed to switch rapidly. The theoretical discharge time of the entire discharging volume for the partial discharge is preferably maximal nearly equal or even less than twice the duration of the working cycle.

DC01\71207.1
ID\RHT